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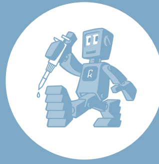

roboklon

Opti*Bst* DNA Polymerase

(Large fragment, exo-)
(*Bacillus stearothermophilus*)

Opti*Bst* DNA Polymerase

(Large fragment, exo-)
(Bacillus stearothermophilus)

Cat. No.	Size
E1079-01	1000 units
E1079-02	8000 units

Unit Definition: One unit is the amount of enzyme required to incorporate 10 nmoles of total deoxyribonucleotide into acid-insoluble form in 30 min at 60°C.

Storage Conditions:
Store at -20˚C

Thermostable *Bst* DNA Polymerase (large fragment, exo-), exhibiting strand displacement activity.

Description:

- → *Bst* DNA Polymerase is a moderately thermostable enzyme from *Bacillus stearothermophilus.*
- → The enzyme is genetically optimized for faster amplification and more flexibility towards reaction conditions.
- → Optimized for LAMP (Loop Medieted Isothermal Amplification).
- → Enhanced capability to incorporate dUTP, as compared to wild-type Bst DNA Polymerase
- → Ultrapure, recombinant protein.
- → The enzyme replicates DNA optimally at 65°C.
- → Catalyzes the polymerization of nucleotides into duplex DNA in the 5´-→3´ direction in the presence of magnesium ions.
- → Lacks the 5'→3' exonuclease activity, while retaining polymerase activity (1).
- → Maintains DNA strand displacement activity.
- → Broad activity range. Can replace mesophilic polymerases as well as synthesize DNA at elevated temperatures. Thus it is suitable for amplification of difficult DNA templates, including repetitive sequences, GC-rich regions and problematic secondary structures (2, 3).
- → Heat inactivation at temperatures above 80°C.
- → Active over a wide range of reaction buffer conditions and magnesium ions concentrations.
- → Used in isothermal DNA sequencing at elevated temperatures.
- → Ideal for DNA synthesis reactions requiring strand displacement

Storage Buffer:

10 mM Tris-HCl (pH 8.0 at 20˚C), 50 mM KCl, 0.1 mM EDTA, 0.1% Tergitol TMN, 1 mM DTT and 50% (v/v) glycerol.

1x Opti Bst DNA Polymerase Reaction Buffer:

50 mM Tris-HCl (pH 8.9 at 20˚C), 10 mM $(NH_4)_2SO_4$, 50 mM KCl, 2 mM-$MgSO_4$, 0.1% Tergitol TMN.

Quality Control:

All preparations are assayed for contaminating endonuclease, exonuclease, and single- and double-stranded DNase activities.

References:

(1) Stenesh, J. and Roe, B,A. (1972) Biochim. Biopys. Acta. 272, 156-166.
(2) Hugh, G. and Griffin, M. (1994) PCR Technology, p.p.228-229.
(3) McClary, J. et al. (1991) J. DNA Sequencing and Mapping, p.p.173-180

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